

REMARKS

Favorable consideration of this application is respectfully requested.

Claims 1-41 are currently active in this case. Claims 37-41 have been added by way of the present amendment. Each added claim is supported by the specification and claims as originally submitted and no new matter has been added.

In the outstanding Official Action, Claims 1-36 were rejected as being unpatentable under 35 U.S.C. §103(a) over *Maston* (U.S. Pat No. 5,323,401).

Applicant appreciatively acknowledges the courtesy of an interview granted by Examiner Phan on February 27, 2003. During the course of the interview, aspects of the invention were discussed, particularly Applicant's use and modification of stimuli data in conjunction with a simulation, while *Maston* only discloses techniques for reducing a stimuli set prior to any use of the data. The Examiner requested this formal amendment.

Applicant respectfully traverses the rejection of Claim 1 under 35 U.S.C. §103 as being unpatentable over *Maston*.

Applicant respectfully notes that *Maston* teaches a method for optimizing test stimulus data based on static timing analysis. To that end, *Maston* teaches evaluation of test stimulus data to determine any stimulus data which cannot cause timing violations. Any stimulus data which cannot cause timing violations is removed from the test stimulus data with a reduced set of test stimulus data, processing time required to test an ASIC using the test stimulus data is reduced. Thus, *Maston* is directed to production of stimulus data via static timing analysis.

In contrast, Applicant's invention is intertwined within a simulation process, and therefore includes a simulation history. The simulations history is recorded and provides a basis from which the simulation stimuli is modified. *Maston*, however, only utilizes static timing analysis and does not have a simulation history as a basis for modifying test stimulus data.

Furthermore, *Maston's* static timing analysis only identifies timing that cannot cause timing violations and then removes them from test stimulus data so only data that can cause a timing violation is used in any subsequent tests. In contrast, as claimed in Claim 1, Applicant's invention does not modify stimulus data until simulation is/has been run.

More specifically, Applicant's Claim 1 recites:

***"recording simulation history for all the validation regions during the simulation process;
generating a new set of stimuli by examining the existing stimuli based on the simulation history; "***

Thus a simulation history and generation of new stimuli based on the simulation is required. However, *Maston* fails to teach or suggest any facilities to utilize a simulation or its history as claimed.

Applicant admits that Applicant's invention and *Maston* are directed to production of stimuli data. However, as admitted in the outstanding Official Action, *Maston* fails to teach simulation history data as claimed in Claim 1. That fact being a direct consequence that the method utilized by the present invention to produce the stimuli data is entirely different than that taught by *Maston* (In *Maston*, a test stimuli is removed based on static timing analysis, while the present invention is based on simulation history). Therefore, Applicant respectfully submits

that the claimed invention cannot be obvious in view of *Maston*, and that Claim 1 is therefore patentable.

Independent Claims 4, 10, 13, 19, 22, 28, and 31, each contain reference to similar claimed subject matter such that the above discussion also applies. Consequently, Applicant respectfully submits that the independent Claims and dependent Claims 2-3,5-9,11-12,14-18, 20-21, 23-27, 29-30, and 31-33, and 37-41 are also patentable.

Claim 34 includes:

" means for determining whether the number of occurrence of each of the values in each of the design inputs within the taken stimulus in the current validation region associated with the corresponding input exceeds a predetermined value;

means for using the taken stimulus as a stimulus in a subsequent step of the simulation process, if the number of occurrences for the value of each of the design inputs does not exceed the predetermined value; and

means for selecting a value for an design input from the set of values with the least number of occurrences for the current validation region associated with the corresponding input, and using the selected value for the design input in a subsequent step of the simulation process, if the number of occurrences for the value of the design input exceeds the predetermined value."

Which specifies a specific means for performing part of a simulation (e.g., a simulation process), none of which is taught or suggested by *Maston*. Consequently, Applicants also respectfully submit that Claim 34 and dependent

claims 35-36 are also patentable because *Matson* fails to teach or suggest similar subject matter.

If the Examiner disagrees with any of the forgoing, or has any comments or questions, the Examiner is invited to call the undersigned, at the phone number listed below, who will be happy to work with the Examiner in a joint effort to derive mutually satisfactory claim language, or assist in evaluating any issues that may arise.

Consequently, no further issues are believed to be outstanding, and it is respectfully submitted that this case is in condition for allowance. An early and favorable action is respectfully requested.

Respectfully submitted,

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Amendment

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